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# Area-Wide Soil Contamination Task Force Report—Executive Summary

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*Submitted to:*

**Washington State Department of Agriculture**

**Washington State Department of Ecology**

**Washington State Department of Health**

**Washington State Department of Community, Trade and Economic Development**

*Prepared with the assistance of:*

Ross & Associates Environmental Consulting, Ltd.

Landau Associates, Inc.

Hubbard Gray Consulting, Inc.

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### Executive Summary

This report transmits the findings and recommendations of the Area-Wide Soil Contamination Task Force, a 17-person panel chartered by the Washington State Departments of Agriculture, Ecology, Health, and Community, Trade and Economic Development (the Agencies) to offer advice about a statewide strategy to respond to low- to moderate-level arsenic and lead soil contamination in Washington State. The Model Toxics Control Act (MTCA) Policy Advisory Committee (PAC) recommended that the Department of Ecology (Ecology) take steps to more effectively address area-wide soil contamination, and the Task Force was formed in response to this recommendation and based on the Agencies' belief that effective, long-term solutions to area-wide soil contamination would require looking beyond traditional cleanup processes and agency boundaries.

The Task Force carried out its deliberations over a 17-month period beginning in February 2002. Deliberations took place at a series of public meetings and through conference calls and e-mail discussions. Task Force members represented a diverse array of perspectives, including environmental, agricultural, schools, business, financial, insurance, real estate, public health, and local government. Preliminary Task Force recommendations were widely publicized and made available for public review and comment; Task Force members considered these comments in finalizing their recommendations.

Task Force deliberations focused on understanding the nature and extent of area-wide soil contamination, making recommendations about effective, practical, and affordable steps individuals and organizations can take to reduce their potential for exposure to area-wide soil contamination, and on creating an alternate, more streamlined approach under MTCA for properties affected by area-wide soil contamination.

One Task Force member participated in the process but chose not to sign the final report because of concerns over recommendations dealing with funding future mapping projects and the potential economic impact of creating area-wide soil contamination zones.

#### What is Area-Wide Soil Contamination?

“Area-wide soil contamination” refers to low- to moderate-level soil contamination that is dispersed over a large geographic area, covering several hundred acres to many square miles. For schools, childcare centers, and residential land uses, in general, Ecology considers total arsenic concentrations of up to 100 milligrams per kilogram (mg/kg)<sup>1</sup> and total lead concentrations of up to 500–700 mg/kg to be within the low-to-moderate range. For properties where exposure of children is less likely or less frequent, such as commercial properties, parks, and camps, Ecology considers total arsenic concentrations of up to 200 mg/kg and total lead concentrations of up to 700–1,000 mg/kg to be within the low-to-moderate range.

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<sup>1</sup> Milligrams per kilogram (mg/kg) is numerically equivalent to parts per million.

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For comparison, the cleanup levels under MTCA for total arsenic and lead in soil are 20 mg/kg and 250 mg/kg, respectively. Arsenic occurs naturally in Washington State soils at approximately 5–9 mg/kg; lead occurs at 11–24 mg/kg.

The Task Force considered area-wide arsenic and lead soil contamination primarily from two sources: past use of lead arsenate-based pesticides, and historical emissions from metal smelters located in Everett, Northport, Tacoma, and on Harbor Island (in Seattle). Based on current information, it is estimated that 676,550 acres in Washington State may be affected by area-wide arsenic and lead soil contamination from these sources. The Task Force also considered the possibility of area-wide soil contamination from combustion of leaded gasoline, and made recommendations about gathering additional information on the potential for area-wide soil contamination from this source.

### Task Force Charter

The Agencies asked the Task Force to provide findings and recommendations on four sets of questions:

- What is currently known about the nature and extent of arsenic and lead soil contamination in Washington State? What steps should be taken to improve our understanding of the location and magnitude of arsenic and lead soil contamination?
- What are technically feasible measures for addressing widespread low-to-moderate soil contamination problems? What is the full range of actions that might be considered to address widespread low-to-moderate levels of soil contamination?
- What changes are needed to eliminate barriers in addressing area-wide soil contamination problems? How can agencies facilitate cleanup of area-wide soil contamination problems under the current legal system?
- What agencies need to play a role in addressing area-wide soil contamination problems and what are possible funding sources?

The Agencies also identified three areas as beyond the scope of the Task Force process: 1) MTCA cleanup standards for arsenic and lead and the policies and technical methods upon which the cleanup standards are based, 2) ongoing site-specific cleanup actions, and 3) current agricultural practices.

### Task Force Guiding Principles

In making recommendations, the Task Force was guided by six principles, which it believes should also guide the Agencies. These principles are:

- A balanced approach is needed, centered on effective, practical, and affordable solutions.
- Risks from area-wide soil contamination appear to be relatively low when compared to risks at sites with higher concentrations of contaminants.

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- It is prudent to take effective, practical, and affordable steps to minimize the potential for exposure to area-wide soil contamination.
- Efforts should focus on children, because they are believed to be the human population most sensitive to elevated levels of lead and arsenic in the environment.
- Responses to area-wide soil contamination should be commensurate with the level of risk associated with potential exposures and should increase as potential exposure increases.
- Decisions about area-wide soil contamination should be made locally.

From these principles, the Task Force's deliberations produced agreement on and support for numerous recommendations to the chartering Agencies.

### Education is the Foundation of Task Force Recommendations

The foundation of the Task Force recommendations calls for the Agencies to initiate a broad-based health education and awareness-building campaign about low- to moderate-level arsenic and lead soil contamination, and to support and encourage actions individuals can take to reduce the likelihood that they will be exposed to arsenic and lead in soil. The Task Force recommends that the Agencies:

- Work with and through local governments, particularly local health jurisdictions, to establish a broad-based education and awareness-building campaign designed to provide individuals, organizations, and communities with a toolbox of information and materials to make knowledgeable and responsible choices about responding to area-wide soil contamination. This should include information on where area-wide soil contamination is most likely, how people can conduct individual property evaluations of the potential for area-wide soil contamination, and on effective, practical, and affordable steps people can take to reduce the likelihood that they will be exposed to arsenic and lead in soil. Education should focus on people and organizations that care for children—including parents, educators, health care providers, and childcare providers—and gardeners and other adults who frequently work in soil.
- Take a step-wise approach to education and awareness-building with statewide distribution of general information supplemented by specific outreach and support for individuals and organizations located where area-wide soil contamination is likely.
- Encourage residents in area-wide soil contamination zones to implement “individual protection measures,” such as hand washing, removing shoes before entering the house, frequently washing toys and pets that go outdoors, and scrubbing fruits and vegetables before eating them. Also encourage residents in area-wide soil contamination zones to maintain good soil cover.
- Evaluate the effectiveness of these outreach and education efforts.

### Land-Use Specific Recommendations to Complement Education

To complement broad-based education and awareness-building, the Task Force also recommends specific approaches in different land-use scenarios.

#### ***Child-Use Areas***

For child-use areas (including schools, parks, and childcare facilities) potentially affected by area-wide soil contamination, the Task Force recommends that property owners implement individual protection measures, maintain good soil cover in areas where children play, conduct qualitative evaluations to increase their understanding of where exposure could occur, test soils where qualitative evaluations indicate the potential for exposure to contaminated soil, and implement additional protection measures such as installing a geotextile fabric barrier between contaminated soils and surfacing materials in play areas if contamination is found. The Agencies should work with local health jurisdictions, school districts, and other organizations to support, encourage, and assist with implementation of these actions. Task Force recommendations for child-use areas also call for the Agencies to:

- Encourage implementation of Consumer Product Safety Commission guidelines for maintaining children's safety at existing playgrounds in parks, schools, camps, and childcare facilities.
- Require soil testing at new public child-use area construction sites and implementation of additional protection measures if contamination is found.
- Establish, with the Department of Social and Health Services (DSHS), a voluntary certification program for family home childcares and childcare centers to indicate that they have taken steps to minimize children's potential for exposure to lead and arsenic in soil.

#### ***Residential Properties***

For residential properties potentially affected by area-wide soil contamination, the Task Force recommends that the Agencies offer technical and financial assistance to support and encourage residents to implement individual protection measures, maintain good soil cover, and conduct qualitative evaluations to understand where exposure could occur. Where qualitative evaluations indicate the potential for exposure to contaminated soil, the Task Force recommends that individuals consider soil testing and implementing additional protection measures if contamination is found.

#### ***Commercial Properties***

For commercial properties potentially affected by area-wide soil contamination, the Task Force recommends that where commercial areas are covered with surfaces such as buildings, parking lots, or other effective soil cover, no further response actions are necessary to address area-wide soil contamination. For mixed-use areas, Task Force recommendations for non-commercial use should also be considered. For example, if a childcare center is located in a shopping center, the Task Force recommendations for child-use areas should be considered for the childcare center.

### ***Open Land***

For open land potentially affected by area-wide soil contamination, the Task Force recommends that the Agencies:

- Amend the State Environmental Policy Act (SEPA) checklist to include a question about whether there is the potential for area-wide soil contamination on a property.
- Encourage developers to conduct qualitative evaluations of properties and, where warranted, carry out soil testing prior to construction. Also encourage developers to incorporate appropriate additional protection measures into site development and construction plans.
- Support actions to enact Washington State legislation requiring a real property transfer disclosure statement for open land.

In addition, for open land being developed, the Task Force recommends that the Agencies ensure implementation of existing U.S. Occupational Safety & Health Administration (OSHA) and Washington Industrial Safety and Health Act (WISHA) requirements governing worker protection and safety, and implementation of requirements to control windblown dust and soil erosion due to storm water runoff during construction. For open land not being developed, the Task Force recommends that land owners use practical, cost-effective measures to limit the potential for exposure to contaminated soil and windblown dust.

### Application of the Model Toxics Control Act

The Task Force debated MTCA and its application to area-wide soil contamination extensively. From these discussions, the Task Force identified a number of objectives related to use of MTCA and a number of elements of MTCA that Ecology might consider in meeting these objectives. The Task Force makes six recommendations related to MTCA:

- As much as possible, use regulations instead of policies to implement Task Force recommendations related to MTCA.
- Avoid listing individual properties affected by area-wide soil contamination and instead identify and describe area-wide soil contamination zones.
- Establish in regulation a new enforcement forbearance policy available where property owners choose to implement Task Force recommendations at residential and commercial properties within area-wide soil contamination zones. To complement the policy, establish a standard checklist that can be used to document property status. Announce the new policy and checklist when area-wide soil contamination zones are first described.
- Where property owners choose not to implement Task Force recommendations, they remain under the current MTCA system that includes a policy under which, in general, Ecology chooses not to take enforcement actions at residential properties.
- Where properties are sampled and concentrations of arsenic and lead are below cleanup levels, provide a streamlined process to reflect that properties are clean.

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- The traditional MTCA approach remains available to property owners who want to use it to address area-wide soil contamination and to Ecology where a property is affected by contamination other than area-wide soil contamination.

### **Other Recommendations**

Task Force recommendations also address additional information needs and funding strategies.

With respect to additional information gathering, the Task Force recommends that the Agencies:

- Gather additional, scientifically valid information on the health of Washington residents, particularly children, who may be exposed to arsenic and lead.
- Conduct further research to characterize the location and extent of elevated levels of lead in soil from past use of leaded gasoline in Washington. Possibly focus on areas adjacent to older, more heavily used roads.
- Study the effects of area-wide soil contamination on ecological receptors, including plants and animals.

With respect to funding, the Task Force recommends that the Agencies:

- Provide financial assistance for local government efforts to address area-wide soil contamination, particularly the activities of local health jurisdictions.
- Seek funding from a broad array of Federal, State, and private sources, including the State and Local Toxics Accounts, private foundations, Federal grant programs, the Federal government and the State legislature, and any identified potentially liable parties.